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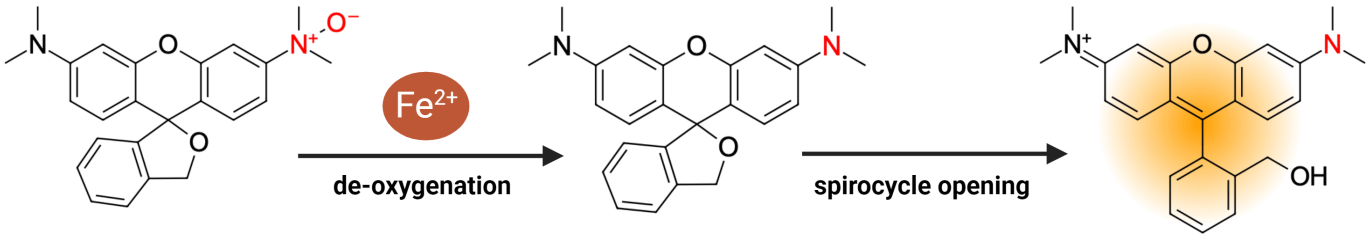
HMRhoNox-M, Fe(II)-selective fluorescent probe

http://www.lumiprobe.com/p/hmrhonox-m

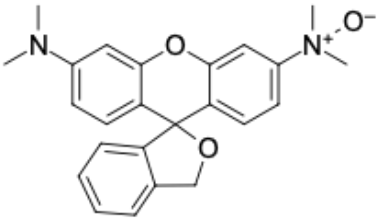
HMRhoNox-M (also known as LysoRhoNox) is a Fe^{2+}-selective fluorescent probe based on the N-oxide-controlled spirocyclization of tetramethyl-hydroxymethyl rhodamine.

In the absence of Fe^{2+}, HMRhoNox-M exists in the non-fluorescent spirocyclic form showing only negligible fluorescence in an aqueous buffer and at physiological pH. The addition of Fe^{2+} induces a 60-fold increase of the fluorescence signal at 575 nm through the deoxygenation of the dialkylamino group and the transition of the probe to an open fluorescent form. HMRhoNox-M responds to Fe^{2+} in a dose-dependent manner.

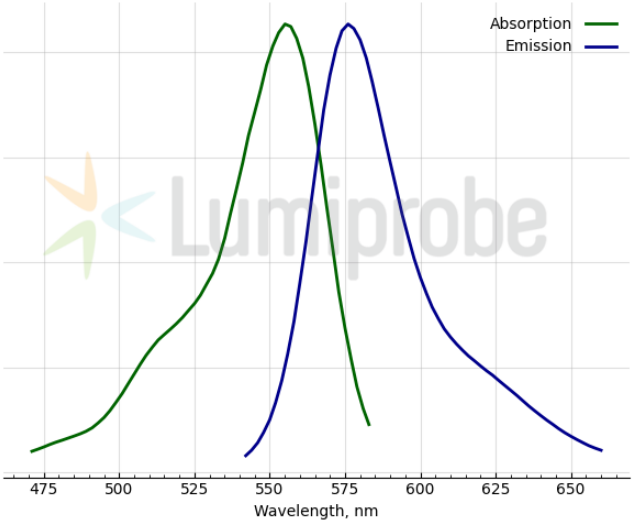


The fluorescence response of HMRhoNox-M is highly selective for Fe^{2+} over other transition metal ions, including Fe^{3+}, alkali metal ions, and alkaline earth metal ions.

HMRhoNox-M is the cell-permeant probe that is mainly localized in lysosomes. It is suitable for monitoring fluctuations of endogenous labile iron in living cells, including the transferrin-induced Fe uptake.



Structure of HMRhoNox-M



Absorption and emission spectra of HMRhoNox-M

General properties

Appearance:	beige-pinkish crystals
Molecular weight:	388.47
Molecular formula:	$C_{24}H_{24}N_2O_3$
Solubility:	DMSO
Quality control:	NMR ^1H and HPLC-MS (95+%)
Storage conditions:	24 months after receival at -20°C in the dark. Transportation: at room temperature for up to 3 weeks. Desiccate.

Legal statement:	This Product is offered and sold for research purposes only. It has not been tested for safety and efficacy in food, drug, medical device, cosmetic, commercial or any other use. Supply does not express or imply authorization to use for any other purpose, including, without limitation, in vitro diagnostic purposes, in the manufacture of food or pharmaceutical products, in medical devices or in cosmetic products.

Spectral properties

Excitation/absorption maximum, nm:	555
Emission maximum, nm:	575